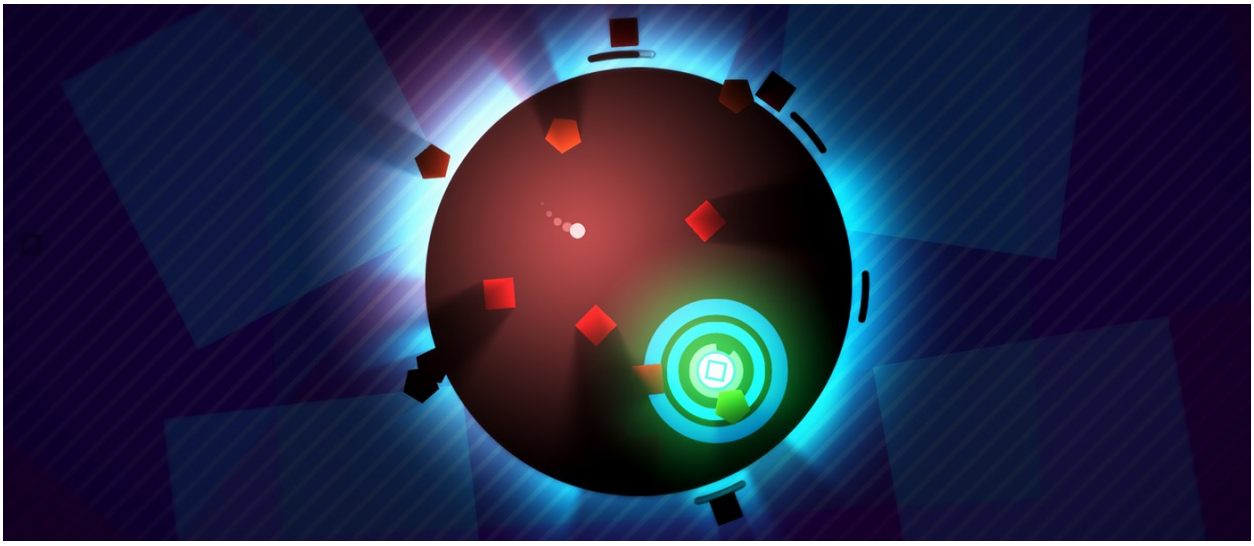
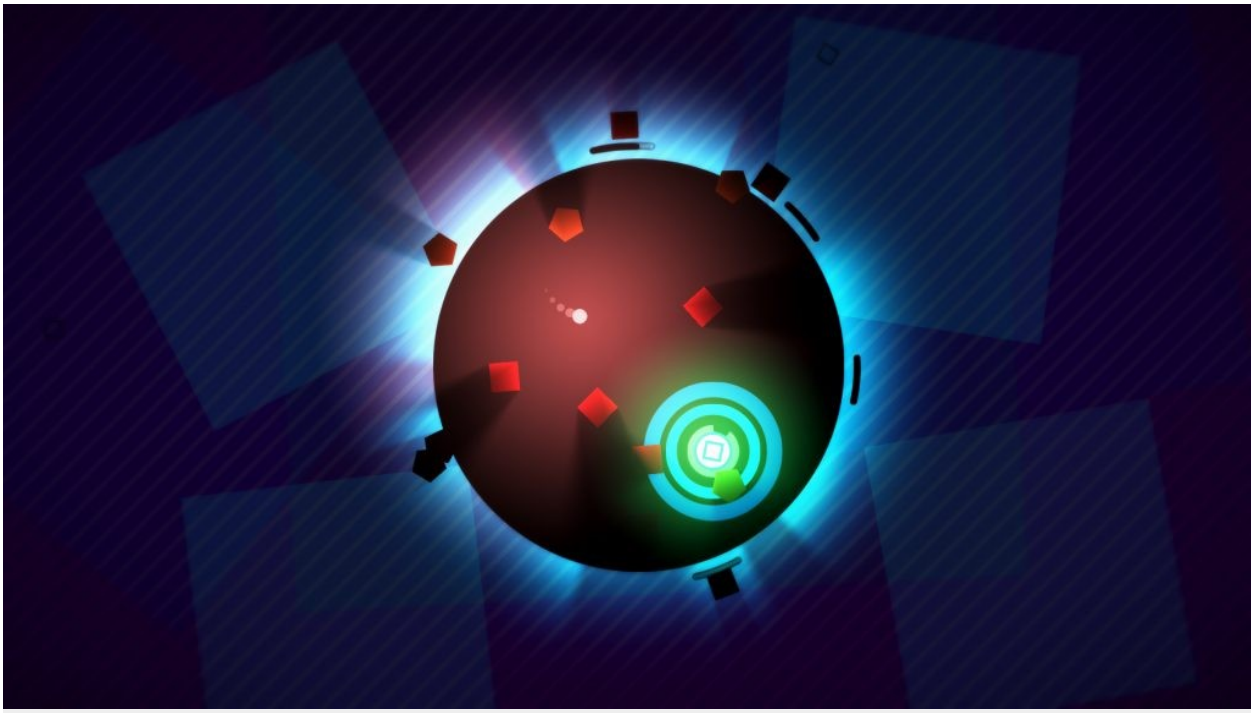
How HyperDot Became a Pioneering Effort for Gaming Accessibility



Community Fifthpaw Dec 21, 2020

Written by Oraclea

While watching the 2020 *Game Awards*, I observed that a new category had been added this year- *Innovation in Accessibility*. The nominees included four releases by larger studios, as well as ***HyperDot***, a game developed by just *one person*.



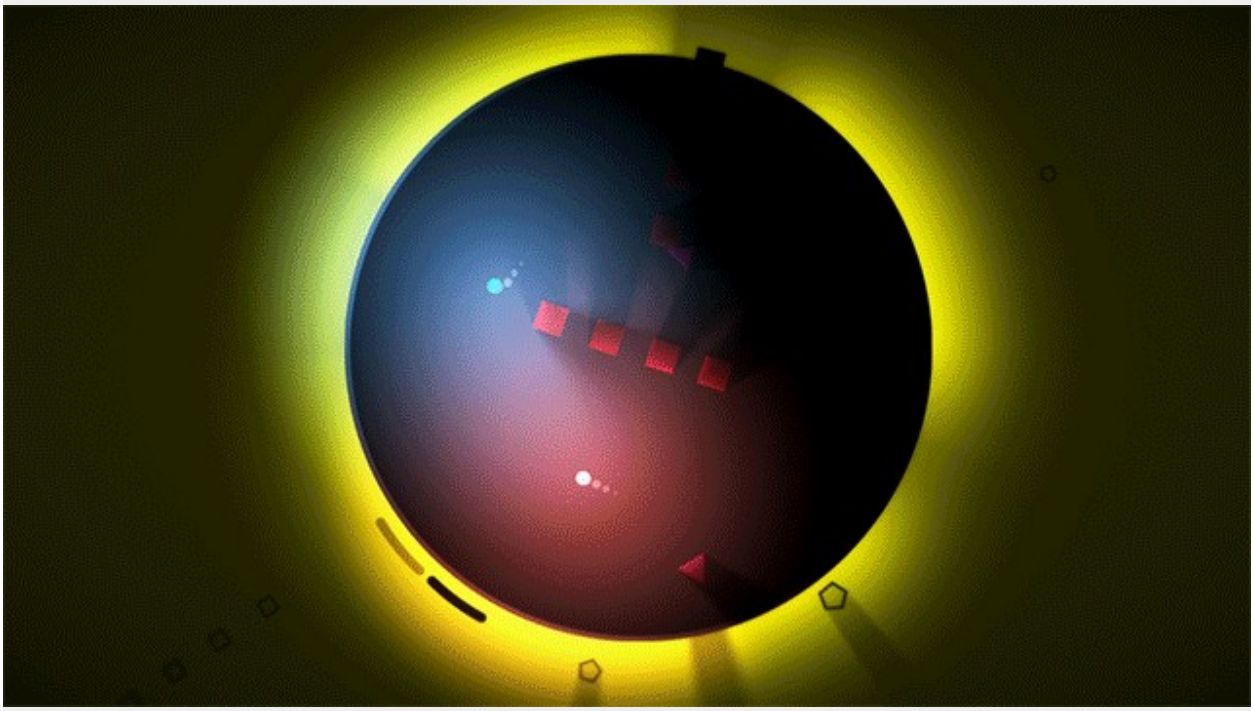
I played HyperDot quite a bit in 2020, and thoroughly enjoyed the sleek minimalist presentation, the incredible range of in-game options and customizable levels, and the challenging but addictive arcade-style gameplay loop that consistently had me saying "**Just one more try!**" until I finally managed to beat its campaign and its "impossible trials." (Side note: HyperDot is also included in Xbox Game Pass for Console, PC, and Android as of the timing of this blog!)

That said, it was still surprising at first to see a game developed by just one person nominated in this category, standing next to industry giants like *Obsidian* (nominated for *Grounded*, with features including its noteworthy *Arachnophobia Mode*), *Ubisoft* (nominated for both *Assassin's Creed: Valhalla* and *Watch Dogs: Legion*), and *Naughty Dog* (who won the award for their remarkable efforts on *The Last of Us, Part II*).

I decided to look into exactly how HyperDot came to be so well-recognized for its accessibility features. It turns out that, although HyperDot was developed by one person, its push toward accessibility was a highly collaborative effort, and one that has already been influencing the entire gaming industry.

HyperDot's push toward innovation in accessibility began in earnest when developer Charles McGregor began experimenting with how his early build for HyperDot would work using different controllers, including an eye tracking device. He was not only successful with the implementation of eye-tracking controls, but also made a key observation that using them resulted in a very different gameplay experience than using a conventional controller-

as the goal of HyperDot is to avoid on-screen enemies for as long as possible, McGregor observed that a player using a conventional controller would observe the enemies and use the controller to avoid them, whereas a player using eye-tracking would observe the gaps between enemies to track their dot in those gaps.



This observation helped to influence McGregor to turn HyperDot from a game that happened to have a few key accessibility features into a game that was purposefully designed to be accessible.

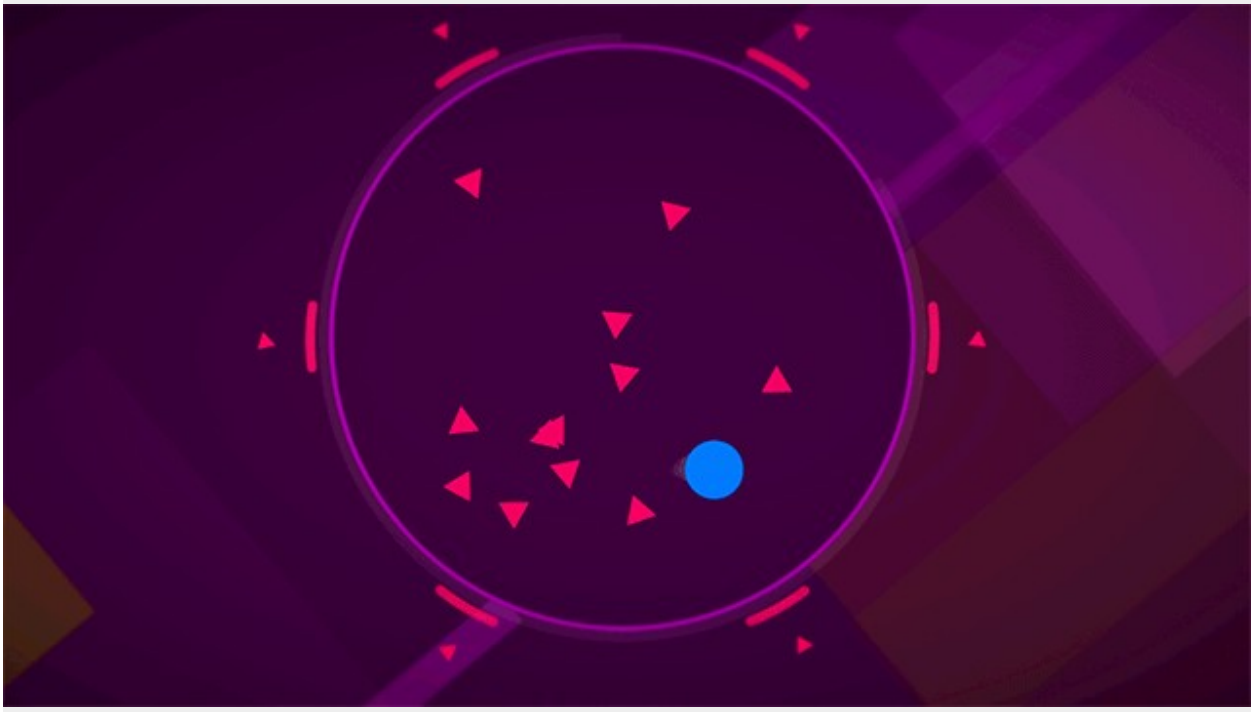
At its core, accessibility in game design is about making gaming experiences that can be enjoyed by as many people as possible, and about examining and addressing the barriers that might prevent a player from doing so. McGregor, along with HyperDot publisher *Glitch* and accessibility consultant Cherry Rae Thompson, set out to accomplish this by starting *HyperDotA11y*, a program designed to partner with disabled content creators who would stream the game from their homes, and give feedback on their experiences with the game.

After the streams, the team would meet to discuss what they learned, and would prioritize and implement solutions based on the participants' feedback.

McGregor was able to implement a wide variety of features lending themselves to accessibility in HyperDot. The game supports many different types of controller inputs beyond standard console or PC inputs, from eye-tracking to touch controls to the *Xbox Adaptive Controller*, and is designed to

automatically detect what type of controller is being used. The game also includes numerous features such as colorblind mode, two different high-contrast modes, button remapping options, and the ability to disable things like background animations, controller vibrations, and screen shake.

It is a bit of a misconception, however, that a game's accessibility is simply about the number of features it has- there are many other aspects of a game's design that reflect on its accessibility. For example, HyperDot has 100 main levels, and a similar game might implement a progression system where the current level must be beat in order to unlock the next level.



During the HyperDotA11y research, however, it was determined that certain levels posed unexpected challenges for certain subsets of disabled players, such as "dark mode" levels for players with certain vision impairments, where a "fix" for the problem wasn't as feasible as for other situations. The solution that was implemented was to change the way levels unlock by grouping them in blocks of five, and require the player beating four out of the five to unlock the next five, with no set of five containing more than one level that was known to be problematic for any specific group.

This allows more players to experience the campaign's progression and difficulty curve, while still keeping accessibility foremost in mind. Additionally, many of HyperDot's levels feature a large amount of enemies on-screen at once, but this could have been prohibitive for players with certain cognitive disabilities.

HyperDot cleverly addresses this within its design by featuring colored indicators on the edge of the playing arena indicating that an enemy of that color is about to show up, which helps players handle the on-screen action without bombarding them with too much information at once. Design aspects like these, as well as a simple-by-design control scheme and various updates to improve aspects like text visibility and player-friendly color schemes, have helped to make HyperDot incredibly well-regarded for its accessibility.

And major gaming companies have taken notice.